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Remarks

Reconsideration of the above-caption application is respectfully requested. All pending claims (1-24) have been rejected as allegedly not being enabled, and Claims 1-4, 8-12, 15-18, and 22-24 have been rejected as being anticipated by Fayyad et al. '334. The remaining Claims have been rejected as being obvious over Fayyad et al. in view of Staats. Objections to the drawings and specification have also been lodged.

Objections to the Drawings:

The drawings have been objected to as best understood from the Office Action for requiring better labelling. It is believed that the substitute drawings cure the objections to the drawings.

Objections to the Specification

The specification has been objected to because "there is no provision in 37 C.F.R. §1.71 for law interpretations of claim analysis in the detailed specification on pages 12-13." First, such "law interpretation" sections are ubiquitous at the end of patent specifications. Second, simply because alleged "law interpretation" is not affirmatively countenanced by the Rules does not mean patent applicants can't include it. If something isn't explicitly proscribed, it is permissible to use it.

The specification has also been objected to for using "Java" without noting that it is a trademark. The examiner is authorized to place a trademark symbol after the word "Java" on page 6 if he likes.

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Rejections Under 35 U.S.C. §112, First Paragraph

The claims have been rejected under 35 U.S.C. §112, first paragraph for allegedly lacking an enabling disclosure. As best understood, it appears that the examiner thinks that it would require undue experimentation to practice the "dimensionality of d" in Claims 3, 8, 11, and 13; "$d_{min1} <$ k-NNdist(q)" of Claim 13; and the "approximations" of Claims 1, 8, and 15, because "these approximations are based on the formula/expression or variable K-NNdist".

This rejection fails to conform to the guidelines of MPEP §2164.04, which in this case requires the examiner to explain why he thinks basing approximations on K-NNdist would require undue experimentation. Instead, all the Office Action alleges is that it does, somehow, require undue experimentation, without explaining why. How can Applicant respond? Does the examiner think that K-NNdist has not been explained? Or that it requires knowledge of subject matter not disclosed? The examiner is encouraged to read MPEP §2164.04, particularly the second and fourth paragraphs which set forth the examiner's burden and give examples of the kinds of findings of fact that are required to make an enablement rejection.

Second, the invention is enabled in any event. On page 4, lines 6 and 7, it is disclosed that k-NN^{dist} (q) is the kth largest distance between the query vector q and nearest neighbor vectors p encountered so far. This clearly defines what the value is. On page 9, lines 8 and 9, it is further disclosed that the distance k-NN^{dist}(q) is initialized at an appropriate large value. It has not been shown or alleged that selecting such an initial value would require undue experimentation, much less why.

At page 10, lines 1-3, it is disclosed that subsequent to initialization, k-NN^{dist}(q) can be recomputed by setting it equal to the kth-largest distance k-NN^{dist}(q) corresponding to the kth vector p in the answer set.

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It has not been alleged, much less explained, why this straightforward and easy to comprehend step would require undue experimentation. Accordingly, the rejection of the independent claims has been overcome.

Turning to the allegation that the "dimensionality of d" in Claims 3, 8, 11, and 13 and "$d_{min1} < $ k-NNdist(q)" in Claim 13 lack enablement, attention is directed to page 7, line 10, wherein it is stated that "d" is the dimensionality of the database 20. Applicant trusts that the examiner is aware that the skilled artisan knows what is being referred to when one speaks of a database's dimensionality. Certainly, MPEP §2164.04 would require persistence in this particular rejection to be accompanied by evidence showing that database artisans do not know what is meant by the term "dimensionality".

This leaves "$d_{min1} < $ k-NNdist(q)" in Claim 13. The second term has been discussed above, and is fully enabled. On page 4, line 5, it is disclosed that d_{min1} is lower bound on an approximation, with the numeral "1" designating that the bound is related to a claimed "first" approximation for clarity of claiming. On page 8, second full paragraph, d_{min}, which is also referred to as a minimum distance, is equal to $[\mid p \mid ^2 + \lceil q \mid ^2 - 2 \mid p \mid \mid q \mid \cos(\theta_1 - \theta_2)]^{1/2}$, wherein the angle θ_1 is the angle between the cell diagonal and the data vector p and the angle θ_2 is the angle between the cell diagonal and the query vector q. Thus, both rejected terms have been fully enabled.

Rejections Under 35 U.S.C. §102

Claims 1-4, 8-12, 15-18, and 22-24, all of which require using polar coordinates, have been rejected under 35 U.S.C. §102 as being anticipated by Fayyad et al., which nowhere mentions the word "polar" or appears to suggest the use of anything other than the Cartesian coordinates disclosed in, e.g., equations 3 and 4 in column 8. Indeed, the entire thrust of this portion of Fayyad et al. is cast in terms of "Euclidean

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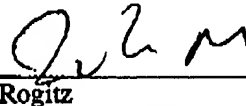
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distance". It is perhaps not surprising that the Office Action studiously avoids making an explicit allegation that Fayyad et al. teaches polar coordinates, although it is regrettable that such a central claim element has been ignored in violation of the MPEP. The rejection has been overcome.

Rejections Under 35 U.S.C. §103

Claims 5-7, 13, 14, and 19-21 have been rejected under 35 U.S.C. §103 as being unpatentable over Fayyad et al. in view of Staats, another patent in which the word "polar" nowhere appears. Absent a suggestion to modify Fayyad et al. to use polar coordinates, the rejections must fall.

The Examiner is cordially invited to telephone the undersigned at (619) 338-8075 for any reason which would advance the instant application to allowance.

Respectfully submitted,

John L. Rogitz
Registration No. 33,549
Attorney of Record
750 B Street, Suite 3120
San Diego, CA 92101
Telephone: (619) 338-8075

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